Los Angeles Trade Tech. Jr. College
Instructor: R.H. Oeffinger

ELECTRONICS TECHNICIAN EXAMINATION

Name Agustin Lucas
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RF Oscillators and AM Modulation 94%

Complete the following:

98%

1. The purpose of feedback in an oscillator is To MAINTAIN OSCILLATIONS IN THE CKT. BY SUPPLYING THE ENERGY LOSSES WITHIN.
2. Bias in an Oscillator is developed by GRID CURRENT WHEN THE GRID IS DRIVEN POSITIVE.
3. Most R.F. oscillators operate class "C"
4. When plate current is bypassed around the tank circuit the oscillator is called SHUNT FED
5. Feedback in a TPTG is accomplished by INTERELECTRODE CAPACITANCE OF THE TUBE
6. Feedback in a crystal oscillator is accomplished by INTERELECTRODE CAPACITANCE OF THE TUBE
7. Feedback in a colpitts oscillator is applied THROUGH THE LOWER CAP. OF THE CAP. DIVIDER NETWORK IN THE GRID TANK.
8. Feedback in a hartley oscillator is applied THROUGH THE LOWER PART OF THE TAPED COIL OF THE GRID TANK.
9. The electron-coupled oscillator uses the SCREEN GRID as the OCIL. PLATE element.
10. To prevent loading the oscillator a stage called BUFFER is used.
11. The sidebands for 100% modulation contain 50 % as much power as the carrier.
12. The peak voltage across the tank circuit with 100% modulation is 4 times the B+ PLATE voltage.
13. In plate modulation for 100% modulation the modulator must be 50 % of the CARRIER POWER
14. The audio information in a modulated signal is contained in the SIDE BANDS
15. S.S.B. stands for SINGLE-SIDE-BAND
16. Low level modulation can be accomplished by modulating the GRID OF THE LAST R.F STAGE

17. High level modulation can be accomplished by modulating the PLATE OF THE LAST R.F. STAGE.

18. A type of modulation where a choke is used is called HEISINGS-MODULATOR.

19. A carrier of 10,000kc when modulated with a signal of 2kc will produce frequencies at 10,002 Kc & 9,998 Kc AND THEIR HARMONICS.

20. Overmodulation occurs when THE R.F. IS MODULATED OVER 100%.

Draw schematics of the following:

10,002
&
9,998

1. Armstrong oscillator.
2. Hartley oscillator.
3. Colpitts oscillator.
4. Crystal oscillator.
5. T.P.T.G. oscillator.
6. Electron coupled oscillator.
7. Circuit illustrating low level modulation.
8. Circuit illustrating high level modulation.
9. Draw a block diagram of an amplitude modulated transmitter.
10. Explain how the frequency of a transmitter can be checked by the hetrodyne method.

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10 THE FR. OF A TRANSMITTER CAN BE CHECKED OR MEASURED WITH A FRE. STANDARD OR METER. THIS METER IS CALIBRATED AND CRYSTAL CONTROLLED. BY BEATING THE TRANSMITTER FR. AGAINST THE METER FR. THE ZERO BEAT WILL INDICATE EXACTLY WHERE THE TRANSMITTE FR. IS LOCATED

BEEPING
BEAT